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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,343	03/10/2004	Robert Dobbs	P0806.70004US00	4289

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EXAMINER

RAETZSCH, ALVIN T

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,343

Applicant(s)

DOBBS, ROBERT

Examiner

Alvin T. Raetzsch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above claim(s) 74-76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-76 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/22/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-73, drawn to a process and product, classified in class 423, subclass 61.
 - II. Claims 74-76, drawn to product, classified in class 501, subclass 93.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are directed to related products. The related inventions as claimed do not overlap in scope, i.e., are mutually exclusive and, as claimed, are not obvious variants.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with Robert Walat on 2/16/06 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-73. Affirmation of this election must be made by applicant in replying to this Office action. Claims 74-76 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

2. The drawings are objected to because the features of Figure 2 as described in the specification are not recognizable. Images are scanned in as black & white and the contrast/brightness as submitted sometimes shows up mostly black and washes out the details. Please submit another copy of Figure 2 with an adjusted contrast/brightness will show details in black & white (if a photocopy looks good, it will probably suffice).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

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"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-21, 53-54, 60-69, & 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Rudy references (US 3,737,289 & 3,840,367).

4. Rudy teaches in the cited references grinding media (and methods of making) that comprise multi-carbides of tungsten, titanium, and the other claimed metals with the exception of thallium. The '289 reference teaches the claimed proportions of the metals in the carbides (see claim 14; column 3) and that the carbide powders can be used to fabricate a body of desired shape. The patent also teaches that the carbides can be carbon deficient, which will result in a product with carbide forming metals in their elemental state. Forming a specifically sized grinding material is not mentioned, but is implied and one of ordinary skill in the art would know that a tool bit sized shape (Example I) would include pieces less than 100mm in size.

5. With respect to the claims directing an intended use of the media, Rudy teaches making hard bodies and the '367 patent teaches using the carbides to make wear-

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resistant linings (surfacing) and use for milling in the mining industry (Column 15, lines 30-33). Ball and rod mills are very old and known in the mining industry; they were used to reduce ore to small pieces. Rudy also gives motivation to those in the art to use the carbides in related fields not mentioned within (Column 15, 34-40). Although the '367 patent does not read on the current disclosure as closely as the '289 patent, it is very similar and it would have been obvious to one of ordinary skill in the art at the time of the invention to use features and intended use teachings interchangeably, as they are ultimately analogous.

Also, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

6. Claims 11, 22-52, 55-59, 70, & 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Rudy references (US 3,737,289 & 3,840,367) as applied to the claims above, and further in view of Verhoff et al. (US 2002/0047058).

Rudy does not specifically teach shaping the grinding media described above into spheres of the claimed diameters. Verhoff teaches shaping single-metal carbides (paragraph [0152]) into spheres (paragraph [0106]) of sizes less than 350 microns (paragraph [0130]). It would have been obvious to one of ordinary skill in the art at the time of the invention to shape the carbides of Rudy into spheres for ball milling as taught by Verhoff. Rudy gives motivation towards milling ores, which includes ball

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milling, and teaches carbides with the desirable properties of extreme hardness and toughness. Verhoff gives motivation, not only by using an analogous material, but also by teaching that the composition of the ceramics can be optimized for desired features such as hardness and toughness (paragraphs [0189-191]).

The claims reciting a spherical shape along with intended use are also rejected as described above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin T. Raetzsch whose telephone number is 571-272-8164. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATR



STUART L. HENDRICKSON
PRIMARY EXAMINER